

## SINGLE-PORTED GLOBE CONTROL VALVES TYPE Z1A®

### Design solutions for special applications

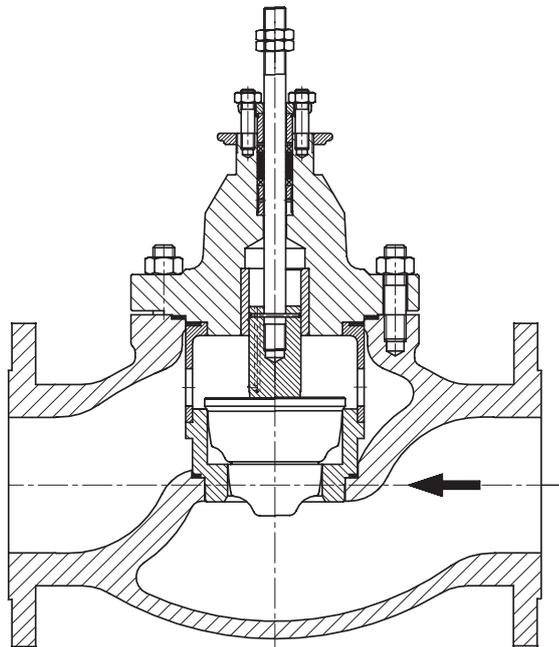
#### INTRODUCTION:

Product versions of valves type Z1A include numerous special executions adjusted especially for particular requirements of installations, in which they are to be installed.

The flow of fluid through the valve (depending on the kind and parameters of the fluid) may cause phenomena having a negative impact on the environment and be destructive to the product's durability.

It often happens that process parameters require application of valves designed strictly for flow parameters, so as to eliminate the occurrence of such phenomena as cavitation, choked flow, noise and to prevent erosion of internal parts.

This catalogue card presents some of most commonly used valve designs, which are comprised in Z1A series, but being special executions, were not included in the main catalogue card of Z1A valves.

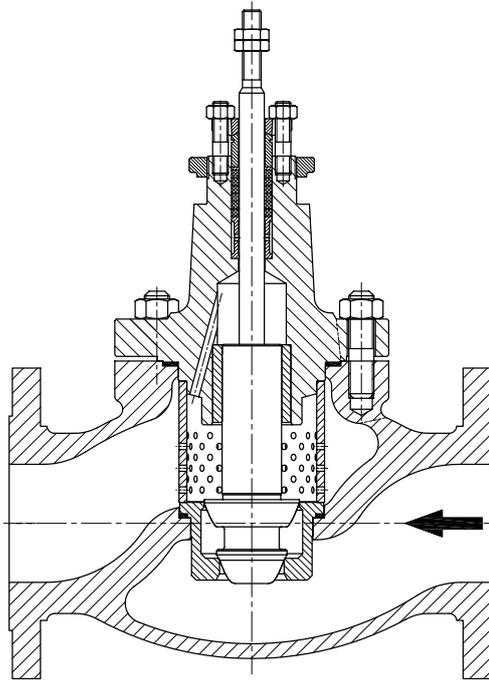


**Valve with profile plug and pressuring cage**

Valves with two-step plugs are designed for eliminating cavitation and choked flow. Each step of throttling has been precisely selected, so as to generate pressure drops below critical values at each point of work. Valve's internal parts are toughened or stellite and nitrided.

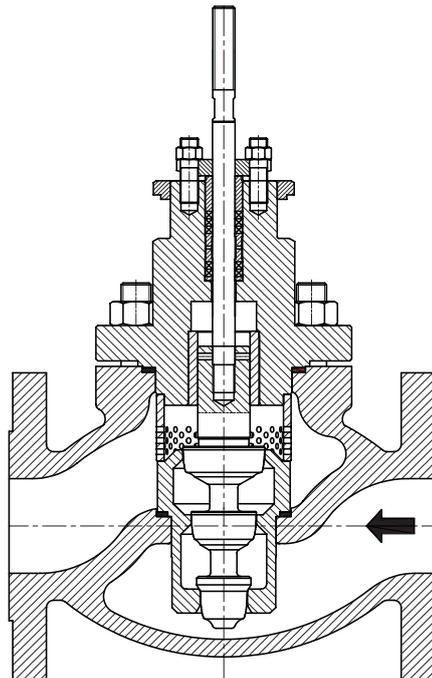
### Valve with two-step plug and throttling cage

Valves with two-step plugs are designed for eliminating cavitation and chocked flow. Second throttling cage is to implement additional throttling step and to reduce the noise level through multihole structure. Valve's internal parts are toughened or stellite and nitrided.



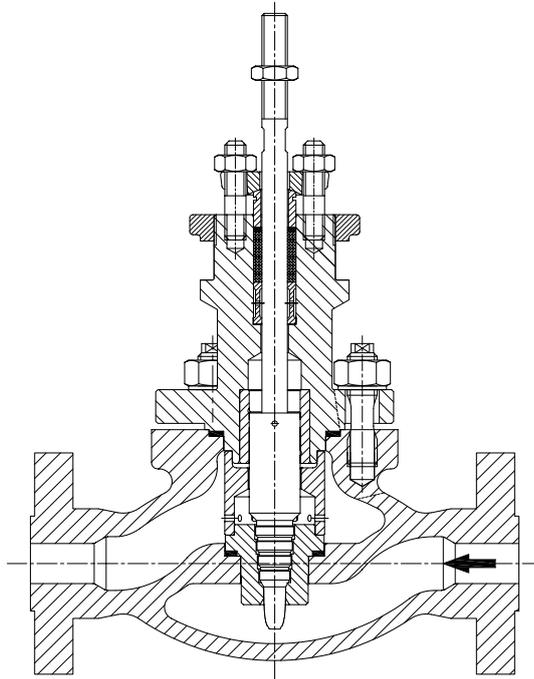
### Valve with three-step plug and throttling cage

Valves with three-step plugs are designed for eliminating cavitation and chocked flow for higher pressure drops than valves with two-step plugs. Additional throttling cage is to implement additional throttling step and to reduce the noise level through multihole structure. Valve's internal parts are toughened or stellite and nitrided.



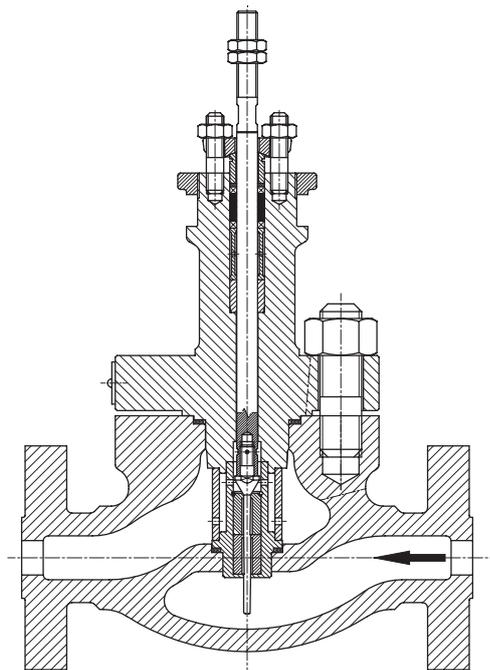
### Valve with multi-step plug

Valves with multi-step plugs are designed for highest pressure drops. Valve's internal parts are toughened or stellite and nitrided, and for most demanding service they are made of ceramics or titanium.



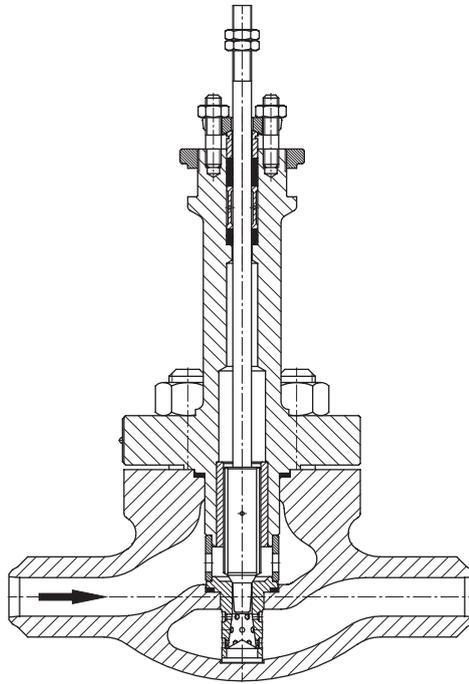
### Valve with multi-step plug for micro-flow

Valves for micro-flows are manufactured with multi-step plugs, which are toughened or made of full stellite. Step-seat is made from toughened stainless steel with stellite inserts. This design allows for precise flow regulation with coefficient below  $K_v$  0,02.



### Valve with reverse flow (FTC) for flashing

Valves with fluid flow over the plug (FTC) are used for service with full evaporation (flashing). A protective cage with conical insert is mounted under the seat aiming at protection of valve body bottom against erosion. All internal parts are made of highly toughened stainless steel.



### Valves DN150-300 for nominal pressures PN160-420

Valves for nominal pressures higher than those in the main catalogue card of Z1A valves are made available upon customised requests. Due to large bonnet diameter and high pressure, the packing system in a form of conical self-tightening (under pressure) seal was used. Product versions with profile and perforated plugs in different materials are available.

